THE FARMERS VINDICA

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Agriculture.

Theory with Practice in Farming.

In the first and second numbers of the VINDICATOR we endeavored to show from whence plants obtained the nourishment necessary to their growth. We demonstrated that the atmospheric constituents were common to all, requiring only the necessary preparation and stirring of the soil to secure them.

More than one hundred years ago Jethru Tull, an English farmer, advanced the theory that it was only requisite to pulverize the soil thoroughly and keep it well stirred during the growth of the plant, and the air would supply the rest. For several years he practiced this method of cultivating crops with marked success. It was astonishing how long this plan succeeded, but after many years it was found that the soil became exhausted of the mineral or inorganic constituents of plants, and that although wheat and other crops would grow, yet they failed to mature seed. Then this question arose, of what constituents are the seeds of plants composed? By correct analysis it was found that certain mineral ingredients entered largely into the grains of wheat, corn, etc., viz: phosphate of lime in the form of phosphoric acid, potash, magnesia, lime and soda. As soon as these facts were made known by agricultural chemists, the intelligent farmers of England appropriated them to their own use and imported vast quantities of bones into that country for the sake of the phosphate of lime they co[illegible] the ashes of the grain of wh[illegible] 43 per cent. of phosphate of lime, and the English farmers by applying bone dust liberally to their lands s[illegible]wn in wheat, soon brought the production from 15 to 20 bushels to the acre, up to 50 and 60 bushels per acre. This vast increase was accomplished by the use of *brains as well as bone-dust.*

At the South and especially in our own State, we have been pursuing a similar system of soil exhaustion. It has not been felt so sensibly as yet, as the lint of cotton only takes from the soil 5 or 6 pounds of these mineral ingredients, provided we scrupulously return all the cotton seed to the land from which the lint was taken.

A case in point is the practice of one of the best planters in Hinds county Mississippi; we allude to the Rev. John Lusk, whose farm lies near Clinton, when he entered upon the cultivation of it, was one of the most exhausted farms in the country.

Mr. Lusk pursues the following plan of manuring with green cotton seed. In December or if possible in the latter part of November, he goes into his field and opens out a center furrow with the turning plow, in this furrow he runs a subsoil plow as deep as possible. He then scatters along in this furrow his fresh cotton seed at the rate of thirty bushels to the acre and upon these seed he sprinkles ashes at the rate of three barrels to the acre or about nine bushels. He then laps over the seed two furrows with the turning plow and lets it thus lie during the winter. When the time arrives in the spring to plant cotton he beds up in the usual way, except he follows the bedding plow with a subsoil plow. The result of this use of *brains* in the cultivation of cotton is from one to one and a half bales of cotton to the acre.

The *rationale* of this system is that the the decayed cotton seed furnish all the ingredients to make the seed of the next crop and at the same time stimulates the growth of the plant by the the ammonia that has been given off, and absorbed by the soil. The ashes hastens the decay or eats up the cotton seed and also furnishes potash direct to the plant.

As reported in the first number of the VINDICATOR, Mr. Sandidge near Brownsville, Hinds county Mississippi, by the use of cotton seed composted with cow lot manure and woods earth, in the proportion of one load of cotton seed, one load of cow dung and two loads of wood mold. Of this compost he spread sixteen one-horse cart loads to the acre. In addition Mr. Sandidge when bedding up his land to plant, scattered fresh cotton seed in the center furrow at the rate of sixty bushels to the acre. He cultivated the crop in the usual way, and on this one acre he made two bales of of cotton, the last unfavorable season, in spite of the worms, rust, rot, wet and dry weather.

There is a point in both of these examples to be remembered: That the manuring and cultivation of the soil hastens the maturity of the cotton crop and pushes it ahead of the worms, rust and drouth.

How many farmers in the State, the ensuing season, will profit by these examples.

From the Farmer and Gardener.]

HOME-MADE FERTILIZERS.

The credulity and ignorance prevailing among agriculturists as a class, in regard to the chemical changes in nature in constant operation, as well as to the elements composing the various crop products, and that is required in the soil to produce bountiful crops, renders them peculiarly liable to imposition and extortion from enterprising speculators.

Agriculture is the "chief corner stone," and its successful prosecution and improvement is the main-spring to all other industries. Therefore the art of preserving and restoring the fertility of exhausted soils, is one of the first importance, not only to the agriculturist, but to all other pursuits. The following directions for composting cheap and efficient manures is offered for the benefit of those willing to incur a little trouble in order to make progress and save dollars.

And first, they must know that all vegetable and animal matter, and some mineral substances, when decomposed and rendered soluble, furnish food for plants. The virgin soil of the most fertile land is the product of these materials, decomposed in nature's laboratory, and her agents are heat, air and moisture. Experience and observation have demonstrated these facts, and science details the reasons.

With knowledge and experience, a better fertilizer than much that is sold, can be prepared at home at comparatively little cost, and in many cases for less than is paid for freight on the commercial article.

Some care and system is necessary, of course, to gather and treasure up for use every waste material that will increase the size and improve the quality of the manure heap. The cost in labor and time, as well as the value or efficiency of the manure, will depend much upon the mode of treatment. Labor may be saved, and the fermenting and incorporating process may be expedited by preparing a place convenient to the raw material and to water, by excavating a shallow basin, say seven to ten feet wide, and using length required to make the pile six or seven feet high. Grade this basin from the sides, say three inches below the surface to about ten inches in the center; excavate an oval drain through the center, say six inches deep and eighteen inches wide, with a grade of about one in three or twenty. The bottom of this basin should be tempered hard, and may be covered with clay or cement to render them durable. Place rails or timbers across the basin, and cover with boards that will support the weight and prevent the compost from sifting through, and still admit the requisite oxygen, which will be absorbed from the air circulating under it. The first layer over the boards should be a few inches thick of straw or any dry litter, followed by stable manure, or whatever material may be at hand in regular layers, and over each layer of from six to ten inches should be spread a layer of a few inches of muck, or rich earth, to absorb the rich gasses of ammonia, nitrogen, etc., as they are generated. The top of the heap should have a thin layer of straw, to protect from the effect of sun and rain, and to admit air.

If corn stalks, or any coarse fibrous material is to be fermented and decomposed, spread these lengthwise, and in thin layers near the center of the heap. Water should be added sufficient to thoroughly moisten every portion, without draining through; and if this water could be rendered putrid by being prepared in a shallow cistern (constructed for the purpose alongside the pile) by adding offal, urine, excrement, etc., and a quart of fresh lime, or one pound of copperas to every barrel of the liquid, this would hasten the fermentation and improve the product. (Putrid water acts like yeast.) In the course of from one to three weeks—as soon as the material has rotted so that it can be cut down easily with a spade, begin at one end and turn over the material, and then repack it, making the top oval and a little narrower than the bottom. The material should again have as much water as it will absorb, and if the quantity of compost is small in proportion to the acres or crops requiring its aid, and these may be added liberally and mixed well with the compost at the time it is repiled. The whole outside of the heap should be covered with a thin layer of earth or muck, or what is better, if convenient, a thin layer of land plaster, to absorb and retain the gasses that might otherwise escape.

If proper attention is paid to packing, moistening, turning, mixing and repacking almost any material can be fermented, incorporated and rotted pretty fine in the course of from three to five weeks, and one ton of compost properly prepared is more efficient than several tons of raw manure. If the quantity of manure is still too small its efficacy can be greatly increased by mixing with every six or or eight barrels of well rotted compost, one barrel of soluble bone, or Carolina phosphate, one barrel of land plaster, one barrel of alkaline salts (Risley's chemical compound). For thin lands, or where the carboniferous matter, (humus) has become exhausted, this latter mixture has proved better than guano, or any fertilizer that is devoid of the carboniferous element, so indispensable for the maturity and perfection of all plants.

H. W. R.

Mass Convention of Patrons of Husbandry, Kalmazoo, Mich.

A mass convention of the Patrons of Husbandry came off on the fair grounds last Friday, and was addressed by the Hon. Stephen F. Brown, Master of the State Grange; the Hon. W. C. Flagg, of Illinois; the Hon. Mark D. Wilbur, State Senator, and Captain J. C. Burrows, Member of Congress from this district, all Grangers. Mr. Flagg made his speech on monopolies, re-recently delivered in Kansas. At the conclusion of the speeches Mr. Whitney, of Muskegan, Chairman on the Committee on Resolutions, offered a series which were adopted. The first recommends the organization and co-operation of some form to our brethren in toil; second that the Patrons of Husbandry is the first organization in which the farmers had any hope, and we commend it to all, for in the order may be found:

1. Extensive means of intellectual culture, so important to all mankind.

2. Opportunities for the better transaction of business by giving us a knowledge of the avenues of trade the locality and facilities for reaching markets, and the relation of supply and demand.

3. A better understanding of our true position in society, and the way we may regain and retain our places as peers to the members of any other occupation.

4. The third resolution declares in favor of controlling railways and other corporations, but will favor equal and exact justice to all and special privileges to none. The fourth, that cheap transportation is of vital importance to the State; that combinations to increase rates above what is just and legitimate are a conspiracy against the people.

5. That it is the duty of the general government to improve navigable rivers and canals, and that a ship canal from the Mississippi to the seaboard is a public necessity.

6. That we will encourage all kinds of manufactures in our midst, thus saving the cost of transportation to both producer and consumer.

7. Believes mildly in the necessity for middle-men, but that we have to pay too high commissions, and must bring about closer relations between the producer and consumer.

Resolved, That our chief object throughout shall be to benefit ourselves, and not to injure the railways or other corporations, or any class of tradesmen, only ceasing to deal with such as receive our money without giving a fair return for the same.

[illegible] without provisions, your condition would be pitiable. If necessary let the merchants suspend. The north must have the cotton crop. If not her spindles stop and then her ten of thousands of hungry operatives will visit upon the authors of this money crisis a merited retribution. It is most fortunate that this panic has occurred whilst the cotton is still in the hands of the planter. Bankers say they have more than enough assets to cover their liabilities, but they coolly tell us they will not sacrifice them. So let the farmers say, "We have cotton more than enough to pay our debts, but we will not sacrifice it. We will not defraud our creditors; we will certify that we owe you [illegible] have the cotton to satisfy your demand and when you pay us for it, we will sell." When your cotton is gone, and the money sent north, you may cry but there will be no one to help. CORTON.

BERMUDA GRASS.—Having had frequent inquiries for Bermuda grass *seed*, and the proper time for sowing, we take occasion to answer, once for all, that the Bermuda grass does not produce seed. It is therefore idle to talk about "seeding down a patch of Bermuda," as one of our correspondents expresses it. It is propagated solely by slips, or joints, dropped upon plowed ground. If mellow and a little rain, it will need no covering. It may be planted any time from March to No-November—any time except in the winter. It will not stand a freeze and that is about the only thing it will not stand. Indeed, it will take root almost anywhere, and in any soil, that a joint or spear is dropped, and soon overspread the ground, as many a Southern planter will sorrowfully testify. Notwithstanding, we consider it a very valuable grass for our hot climate.

DEFICIENT harvests are reported for the great grain producing districts of Hungary. With short crops in England and France, added to these deficiencies in Hungary, Europe will evidently need an unusually large proportion for the coming winter of our surplus breadstuffs; and, thanks to a bountiful Providence, we have a surplus from which all the wants of Europe may be supplied.